Log Event A

Borehole # 20-01-03

Borehole Information

Farm : B	**Tank :** B-101	**Site Number :** 299-E33-220
N-Coord : 45,237	**W-Coord :** 52,502	**TOC Elevation :** 653.83
Water Level, ft :	**Date Drilled :** 5/31/1973	

Casing Record

Type : Steel-welded	Thickness : 0.280	ID, in. : 6
Top Depth, ft. : 0	Bottom Depth, ft. : 135	

Borehole Notes:

According to the driller's log, this borehole was constructed in May 1973 to a depth of 135 ft and completed with a 6-in. casing. The driller's log does not indicate the borehole was perforated or grouted.

The casing thickness for the 6-in. borehole is assumed to be 0.280 in., on the basis of the published thickness for schedule-40, 6-in. casing.

The top of the casing is the zero reference for the log. The casing lip is approximately even with the ground surface.

Equipment Information

Logging System : 2	**Detector Type :** HPGe	**Detector Efficiency:** 35.0 %
Calibration Date : 04/1997	**Calibration Reference :** GJO-HAN-14	**Logging Procedure :** P-GJPO-1783

Logging Information

Log Run Number : 1	**Log Run Date :** 08/20/1997	**Logging Engineer:** Alan Pearson
Start Depth, ft.: 133.0	**Counting Time, sec.:** 100	**L/R :** L **Shield :** N
Finish Depth, ft. : 94.0	**MSA Interval, ft. :** 0.5	**Log Speed, ft/min.:** n/a

Log Run Number : 2	**Log Run Date :** 08/21/1997	**Logging Engineer:** Alan Pearson
Start Depth, ft.: 94.0	**Counting Time, sec.:** 100	**L/R :** L **Shield :** N
Finish Depth, ft. : 5.0	**MSA Interval, ft. :** 0.5	**Log Speed, ft/min.:** n/a

Log Run Number : 3	**Log Run Date :** 08/22/1997	**Logging Engineer:** Alan Pearson
Start Depth, ft.: 6.0	**Counting Time, sec.:** 100	**L/R :** L **Shield :** N
Finish Depth, ft. : 0.0	**MSA Interval, ft. :** 0.5	**Log Speed, ft/min.:** n/a

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Logging Operation Notes:

This borehole was logged in three log runs. The total logging depth achieved by the SGLS was 133.0 ft.

Analysis Information

Analyst : S.D. Barry

Data Processing Reference : MAC-VZCP 1.7.9 Analysis Date : 04/09/1998

Analysis Notes :

The pre- and post-survey field verification spectra for all logging runs met the acceptance criteria established for peak shape and system efficiency. The energy calibration and peak-shape calibration from these spectra were used to establish the peak resolution and channel-to-energy parameters used in processing the spectra acquired during the logging operation.

Casing correction factors for a 0.280-in.-thick steel casing (based on a 6-in., schedule-40 pipe) were applied to the entire logged interval during the analysis process.

Log Plot Notes:

Separate log plots show the man-made and the naturally occurring radionuclides. The natural radionuclides can be used for lithology interpretations. The headings of the plots identify the specific gamma rays used to calculate the concentrations. Uncertainty bars on the plots show the statistical uncertainties for the measurements as 95-percent confidence intervals. Open circles on the plots give the MDL. The MDL of a radionuclide represents the lowest concentration at which positive identification of a gamma-ray peak is statistically defensible.

A combination plot includes the man-made and natural radionuclides, the total gamma derived from the spectral data, and the Tank Farms gross gamma log. The gross gamma plot displays the latest available digital data. No attempt has been made to adjust the depths of the gross gamma logs to coincide with the SGLS data.

Results/Interpretations:

The only man-made radionuclide detected around this borehole was Cs-137. Cs-137 contamination was detected at the ground surface and just above the MDL at 2 ft.

The K-40 concentrations decrease slightly at depths of approximately 9 and 40 ft. The K-40 and Th-232 concentrations increase at a depth of about 49 ft. The K-40 concentration values increase perceptibly at 80 ft and remain constant to a depth of about 95 ft.

Additional information and interpretations of log data are included in the main body of the Tank Summary Data Report for tank B-101.